

Having thus, described the invention, what is claimed is:

- 1 1. A method of controlling an automatic transmission which is adapted to normally
2 downshift to increase a gear ratio when a vehicle throttle is opened more than a preset
3 amount, the method comprising the steps of:
 - 4 a) selecting a slip-determining threshold based on an instantaneous steering
5 angle of a vehicle;
 - 6 b) detecting a perceived rear wheel speed of the vehicle;
 - 7 c) averaging a number of recorded rear wheel speeds to derive an average
8 vehicle speed; and
 - 9 d) prohibiting downshifting of the automatic transmission if a difference
10 between the perceived rear wheel speed and the average vehicle speed exceeds the
11 selected slip-determining threshold.
- 1 2. The method of claim 1, wherein the selected slip-determining threshold is based on a
2 stored relationship between steering angles and potential slip-determining thresholds.

- 1 3. The method of claim 1, wherein the steering angle is decided on the basis of the
2 forward direction of the vehicle.
- 1 4. The method of claim 1, wherein the average vehicle speed is derived by averaging a
2 plurality of periodically and recently detected wheel speeds.
- 1 5. The method of claim 1, wherein the method is performed by an engine control unit for
2 the vehicle.
- 1 6. A method of controlling a downshift function of an automatic transmission in a
2 vehicle having a powertrain, comprising the steps of:
- 3 a) monitoring a plurality of signals from a plurality of sensors associated with
4 the powertrain, said sensors comprising a vehicle speed sensor, a throttle position sensor
5 and a steering angle sensor;
- 6 b) selecting a slip-determining threshold based on an instantaneous steering
7 angle determined by said steering angle sensor;
- 8 c) detecting a perceived rear wheel speed;

9 d) averaging a plurality of rear wheel speeds and deriving an average vehicle
10 speed; and
11 e) overriding a normal downshift sequence and prohibiting downshifting of the
12 automatic transmission if a difference between the perceived rear wheel speed
13 and the average vehicle speed exceeds the selected slip-determining threshold.

1 7. The method of claim 6, wherein the selected slip-determining threshold is based on a
2 stored relationship between steering angles and potential slip-determining thresholds.

1 8. The method of claim 6, wherein the steering angle is decided on the basis of the
2 forward direction of the vehicle.

1 9. The method of claim 6, wherein the average vehicle speed is derived by averaging a
2 plurality of periodically and recently detected wheel speeds.

1 10. The method of claim 6, wherein the method is performed by an engine control unit
2 for the vehicle.